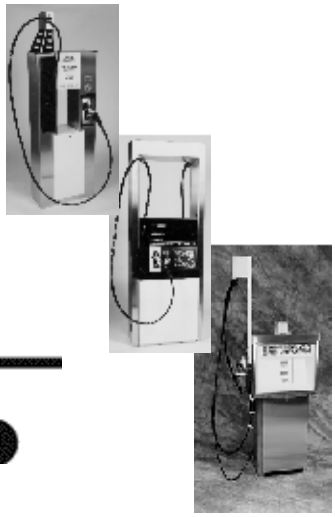


Kraus GLOBAL

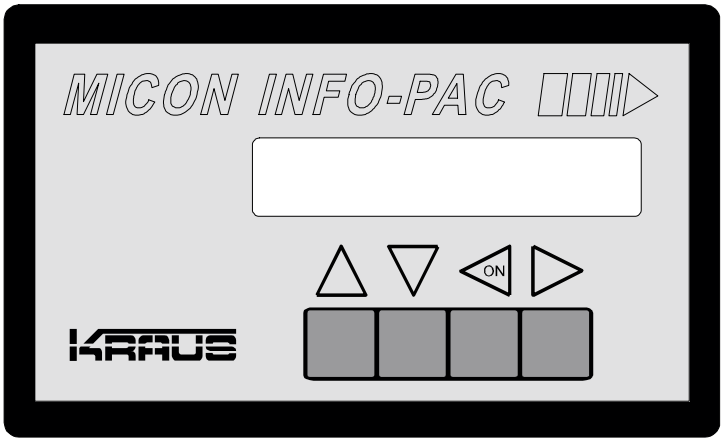
Transportation Refueling Systems

INFO–PAC

MICON 500C™ PROGRAMMING MANUAL

FOR COMPRESSED NATURAL GAS (CNG) FLOW APPLICATIONS

THIS IS YOUR GUIDE TO USING THE MICON 500C™ INFO-PAC, DESIGNED TO CONFIGURE THE MICON 500C™ PUMP COMPUTER HEADS



THIS MANUAL IS TO BE USED IN CONJUNCTION WITH THE MICON 500C™

Kraus Global Inc.
25 Paquin Road
Winnipeg, Manitoba
CANADA R2J 3V9

Publication Number:
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Printed in Canada

!!! IMPORTANT – PLEASE READ !!!

WHEN PERFORMING INSTALLATION OR MAINTENANCE WORK OF ANY KIND, INCLUDING SERVICING MICON 500C ELECTRONIC PUMPHEAD MAIN BOARDS OR USING INFO-PAC TO PROGRAM PUMPHEADS, IT IS THE RESPONSIBILITY OF THE SERVICE PERSON PERFORMING THE WORK TO ENSURE:

1. **ALL POWER TO MICON PUMPHEAD(S) IS TURNED OFF.**
2. **ALL SUPPLY OF GAS TO DISPENSER(S) BEING SERVICED IS SHUT OFF.**

WHENEVER PROGRAMMING WITH THE INFO-PAC, ALL PARAMETERS ARE REWRITTEN IN THE MICON 500C.

BEFORE TRANSMITTING SETTINGS FROM THE INFO-PAC TO THE MICON 500C ELECTRONIC PUMPHEAD, SCROLL CAREFULLY THROUGH ALL OPTIONS DISPLAYED ON THE INFO-PAC, AND ENSURE THAT EACH AND EVERY ONE IS STILL ON THE DESIRED SETTING, EVEN IF YOU HAVE CHANGED ONLY A SINGLE SETTING.

TROUBLESHOOTING – FREQUENTLY ASKED QUESTIONS:

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TABLES

FIGURES

1.0 INTRODUCTION

The MICON INFO-PAC is a hand held self-contained battery powered transceiver unit designed to monitor and program MICON electronic pump heads. **INFO-PAC model M500C is designed to configure MICON 500C pump computer heads used to control flow of CNG (compressed natural gas) product from dispensers.**

Programmable pump head features can be set up in the INFO-PAC memory, then transmitted to MICON heads. The INFO-PAC also receives and displays features already programmed to MICON pump heads.

Setting configuration features in the MICON using the INFO-PAC requires breaking of a legal (*Measurement Canada)* seal on the MICON cover. See section 4.35 – TRANSMIT (m500 settings), page 20. Later model versions (using software 3.06 and up) alternatively require breaking of a legal seal on the handle shaft. To determine which version of pump head you are working with, watch the **software version number** display during power-up.

Configuration event counter in ***dollar display***: Indicates number of times settings have changed in "m500" Info-Pac mode.

Configuration event counter in ***volume display***: Indicates number of times settings have changed in "m500c" Info-Pac mode.

Software version number in *price display.*

1.1 SERVICE AND PRODUCT SUPPORT - CANADA

Should you experience any difficulties in system operation, customer assistance is available.

The procedure to receive such assistance is as follows:

1. Document the following information:

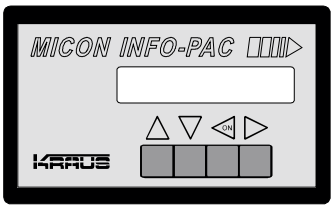
- system dysfunction
- corrective measures taken
- system model number
- system serial number
- purchase order information
- date of installation
- equipment location (i.e., city, address, etc.)
- info-pac setting as per pg 43/44 (Appendix)

2. Call or Fax our Kraus Global Product Service line at:

Service number:
1-204-663-3893

Fax number:
1-204-663-7112

2.0 KEY FUNCTIONS



MICON M500C INFO-PAC

MICON 500C Pump Computer

This key is used to scroll upwards through the menu items.

This key is used to scroll downwards through the menu items.

This key is used to turn the INFO-PAC on, and to scroll forward through the possible values of a menu option.

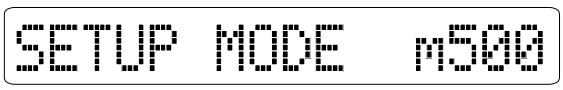
This key is used to scroll backward through the possible values of a menu option, except when a cursor is displayed on the screen. In this case the key is used to move the cursor to the right with "wrap around" when the cursor is on the right most character.

2.1 POWER ON

Press the key marked 

to turn the INFO-PAC on. The INFO-PAC display will momentarily show the software version:

The display then changes to one of the following:

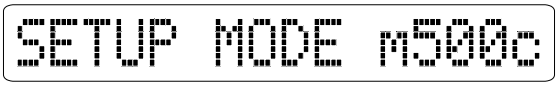


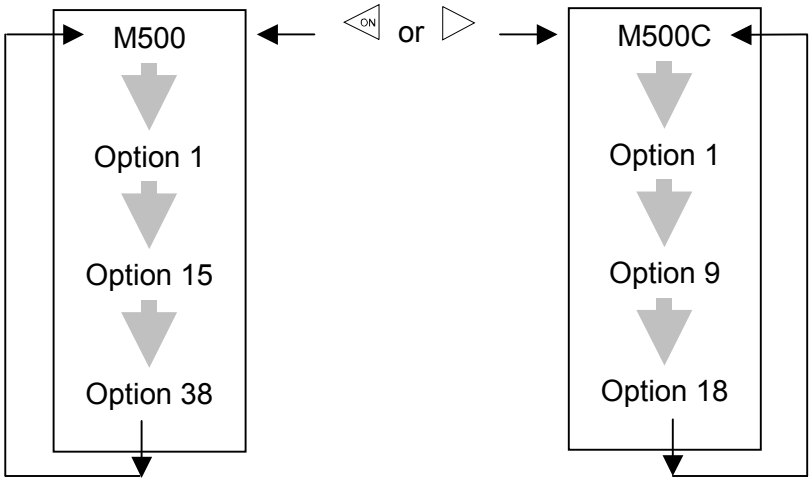
2.2 AUTOMATIC SHUTOFF

- INFO-PAC automatically shuts OFF after 30 seconds without keyboard activity.
- INFO-PAC shuts OFF automatically after 10 minutes when in *transmit* or *receive* mode.

3.0 SETUP MODE

As shown above, the first menu option the INFO-PAC enters when it is powered ON is the *setup mode select*. Changing the value of this option will modify the menu options available. Use the ◁ON or ▷ key to switch between the two options:





4.0 SETUP MODE m500 - CONFIGURATION MODES FOR THE MICON 500C ELECTRONIC PUMPHEAD

TABLE 1 - DEFAULT SETTINGS (M500)

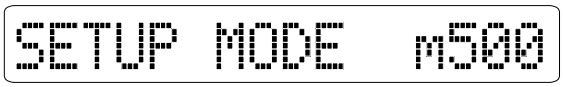
OPTION	DEFAULT SETTINGS
1. SETUP MODE m500	N/A
2. CONFIG	default
3. TEST	off
4. PULSER	.i.s.
5. IN COUNT	1000
6. MULTIPLIER	1
7. CURRENCY	dollar
8. VOL DISP	1.000
9. SUPPRESS	0.030
10. CONV.	off
11. PRC RESTORE	on
12. NO FLOW	off
13. VOL P. QUAD	off
14. VOL PPU	10
15. VOL PW	4.0ms
16. PENNY PW	4.0ms
17. W/M STANDARD	na
18. CLEAR ZEROS	off
19. CONSOLE	kraus
20. BAUD	9600
21. PUMP ID.	not set
22. GRADE	1
23. DISPLAY	normal
24. MASS CONV.	off
25. HOSE SIZE	0.00
26. TURBINE	disab
27. T. CALIB	10000
28. T. UNITS	lb
29. MIN. FLOW	00.4
30. MAX FLOW	030
31. MEXICO CITY 66%	OFF
32. SLOW FLOW	0.600
33. START KEY	disab
34. STOP KEY	disab
35. CUST. PRESET	off
36. P. CODE	0000
37. TRANSMIT	off
38. RX MICON	off

NOTE: Changed settings do not take effect until *transmit* option is executed successfully, as described in section 4.35 – TRANSMIT (M500 settings), page 24.

4.1 SETUP MODE

Use the ◁ (ON) or ▷ key to switch from :

to:



4.2 CONFIG (configuration)

Used to set all menu options to default values.

CONFIG default
Indicates MICON 500C menu options are at their default values.

CONFIG custom
Indicates MICON 500C menu options have been modified from default values. Pressing either the ◁ or ▷ keys will return options to default settings.

4.3 TEST

Used to put MICON 500C into continuous display test mode.

TEST off (default)
Indicates Micon 500C should be in standard operating mode.
Pressing either the ◁ or ▷ key will turn TEST mode ON.

TEST on
Indicates MICON 500C should continuously run through display test mode until INFO-PAC is used to turn OFF test mode on the MICON. Pressing either the ◁ or ▷ key turns TEST mode OFF.

4.4 PULSER

Used to select pulser input source.

PULSER .i.s. (default)
Indicates pulser input is dual channel through the I.S. circuit External wiring. A missing pulser is detected and causes a PULSER FAULT error.

PULSER conduit
Indicates pulser input is dual channel through the conduit external wiring. A missing pulser is not detected.

PULSER conduit – s
Indicates pulser input is single channel through the conduit external wiring. A missing pulser is not detected. A single pulser edge counts for twice the weight in this mode as in one of the dual channel modes.

4.5 IN COUNT

Works in conjunction with MULTIPLIER setting to indicate number of Pulser edges which must me counted to register 1 displayed unit (MICON 500C display).

Refers to number of edges that must be received on the two incoming (lead and lag) pulser lines to register 1 unit of product. Indicates number of quadrature (input pulser) transitions per unit displayed. This value is equal to 4 times the number of pulses on an individual pulser line.

Values for this option can be scrolled through using the ◁ or ▷ keys.

Values are:

IN COUNT	**1000 (default)**
IN COUNT	100
IN COUNT	10
IN COUNT	1

4.6 MULTIPLIER

Works in conjunction with IN COUNT settings to indicate volume of product flow equal to 1 displayed unit (MICON 500C display).

Values for this option can be scrolled through using the ◁ or ▷ keys.

Values are:

MULTIPLIER 1 (default)
MULTIPLIER 2
MULTIPLIER 4
MULTIPLIER 0.5
MULTIPLIER 0.25

EXAMPLE:

IN COUNT 1000 MULTIPLIER 0.5

1000 Pulser Edges = 2000 Edges/Unit
0.5 Unit of Product

.001 Registers on Micon 500C Display (per

TABLE 2 - MULTIPLIER

In Count	Multiplier	Pulser Edges	Unit of Product	= Edges/Unit	Registers on Micon 500C Display (per edge)
1000	1	1000	1	1000	.001
1000	2	1000	2	500	.002
1000	4	1000	4	250	.004
1000	0.5	1000	0.5	2000	.0005
1000	0.25	1000	0.25	4000	.00025
100	1	100	1	100	.01
100	2	100	2	50	.02

4.7 CURRENCY

Used to select:

- type of currency MICON 500C registers sales in;
- number of decimal positions in MICON 500C Money and price fields;
- character displayed before total money sales in MICON 500C totalizer display.

CURRENCY dollar (default)
This setting uses 2 decimal positions in MICON 500C display Money field, 3 decimal positions in Price field and d in the totalizer display.

CURRENCY 0m,1p
This setting uses 0 decimal positions in MICON 500C display Money field, 1 decimal position in Price field and d in the totalizer display.

CURRENCY 2 dp
This setting uses 2 decimal positions in MICON 500C display Money field, 2 decimal positions in Price field and d in the totalizer display.

CURRENCY 1 dp
This setting uses 1 decimal position in MICON 500C display Money field, 1 decimal position in Price field and p in the totalizer display.

CURRENCY no dp
This setting uses no decimal positions in MICON 500C display Money field, no decimal positions in Price field and d in the totalizer display.

CURRENCY 1m, 3p
This setting uses 1 decimal position in MICON 500C display Money field, 3 decimal positions in Price field and d in the totalizer display.

CURRENCY 0m, 2p
This setting uses 0 decimal positions in MICON 500C Money field, 2 decimal positions in Price field and d in the totalizer display.

CURRENCY 2m, 1p
This setting uses 2 decimal positions in MICON 500C Money field, 1 decimal positions in Price field and d in the totalizer display.

CURRENCY 3m, 1p
This setting uses 3 decimal positions in MICON 500C Money field, 1 decimal positions in Price field and d in the totalizer display.

CURRENCY 1m, 2p
This setting uses 1 decimal positions in MICON 500C Money field, 2 decimal positions in Price field and d in the totalizer display.

4.8 VOL DISP (volume display)

The value of this option determines the number of decimal positions to be displayed in the volume unit field of the MICON 500C. The MICON 500C cannot be set to display a more precise reading than the incoming pulses will allow, and cannot be set to display less precisely than to the nearest unit. Values are:

VOL DISP 1.000 (default)
VOL DISP 1.00
VOL DISP 1.0
VOL DISP 1 (only available if IN COUNT setting is less than 1000)

4.9 SUPPRESS (suppression)

This option determines whether or not unit suppression is used, and type of unit suppression used. Values are:

SUPPRESS 0.030 (default)
For first 0.029 units of CNG dispensed, MICON 500C sale register display shows ZERO. For 0.030 units and over, the sale amounts are displayed.

Example:

SUPPRESS 0.009
For first 0.008 units of CNG dispensed, MICON 500C sale register display shows ZERO. For 0.009 units and over, the sale amounts are displayed.

Note:

SUPPRESS 0.000
MICON 500C sale register display shows the sale amount. Suppression is turned OFF.

4.10 CONV. (conversion)

Not used. This option should always be set to default: off.

4.11 PRC RESTORE (price restore)

This option is used when two tier pricing is in effect.

For example, a consumer who is a cardholder may receive a discount from regular sale price of fuel. If PRC RESTORE is set ON, MICON 500C register reverts to regular sale price (tier 1) when dispenser handle returned to OFF position. Values are:

PRC RESTORE on (default)
Price returns to the tier 1 price when the handle is returned to OFF position.

PRC RESTORE off
Price used for current sale is retained for next sale, unless explicitly changed by the user.

4.12 NO FLOW

Default is 'off'. This option controls length of time MICON 500C keeps motor and solenoid valves ON if a sale is in progress but flow has not started. At the beginning of the sale, when there has been no fuel flow for the "NO FLOW" timer interval, the motor and valves will be shut OFF and the sale terminated.

No flow timer interval can be set from 15 seconds to 4 minutes, 15 seconds; in 15 second increments. (Previous model(s) permitted maximum timer value of 2 minutes.)

TABLE 3 – NO FLOW

INFO-PAC SETTING	RESULT
NO FLOW off	MICON 500C will not shut down on a NO FLOW condition.

INFO-PAC SETTING	*Before flow starts:* *Pump and valves shut OFF and sale is terminated* ***after NO FUEL FLOW occurs for the number of seconds on the INFO-PAC setting.***
15 seconds	
30 seconds	
45 seconds	
60 seconds	
75 seconds	
90 seconds	
105 seconds	
120 seconds	
135 seconds	
150 seconds	
165 seconds	
180 seconds	
195 seconds	
210 seconds	
225 seconds	
240 seconds	
255 seconds	

4.13 VOL P. QUAD (volume pulser quadrature)

VOL P.QUAD off (default)
Volume out pulser is single channel, with penny pulser option.

VOL P.QUAD on
Volume out pulser becomes a two channel quadrature pulser output, disabling the penny pulser option.

4.14 VOL PPU (volume pulses per unit)

This option defines the number of output pulses per unit (PPU) transmitted on the Volume Out Pulse line of the MICON 500C.

This value cannot be more than IN COUNT value set for the MICON 500C.

A PPU less than 1 is not permitted by INFOPAC. Values are:

VOL PPU 1
VOL PPU 10 (default)
VOL PPU 50
VOL PPU 100
VOL PPU 1000

4.15 VOL PW (volume pulse width)

This option sets the width of the Volume Pulse signal. This width is defined as the "on time" length of the pulse. Setting should be compatible with equipment used. Pulse width values are:

VOL PW 0.5ms
VOL PW 1.0ms
VOL PW 2.0ms
VOL PW 4.0ms (default)
VOL PW 17.0ms
VOL PW 19
VOL PW 26.0ms
VOL PW 150.0ms

4.16 PENNY PW (penny pulse width)

This option sets the width of the Penny Pulse signal. This width is defined as the "on time" length of the pulse. Setting should be compatible with equipment used. Pulse width values are:

PENNY PW 0.5ms
PENNY PW 1.0ms
PENNY PW 2.0ms
PENNY PW 4.0ms (default)
PENNY PW 17.0ms
PENNY PW 19.0ms
PENNY PW 26.0ms

Choose to have either:

- Penny pulser and line pulser OR
- 2 channel volume pulser and no penny pulser.

Note:

Setting VOL P. QUAD ON **disables penny pulser output**, since this line is used as second line of volume pulser. (Volume out pulser becomes a two channel quadrature pulser output, disabling the penny pulser option.)

4.17 W/M STANDARD (*Weights & Measures* standards)

This option sets up the allowable pulser errors to meet the na (North American) or eu (European) standards. It also changes the units of the pressure and temperature diagnostic displays. That is, PSI/ Fahrenheit for the “na” case and Bar/Celcius for the “eu” case. Settings are:

W/M STANDARD na (default)
W/M STANDARD eu

4.18 CLEAR ZEROS

This option sets the MICON 500C register to display or suppress leading zeros on the current sale display. Settings are:

CLEAR ZEROS off (default)
Displays leading zeros in current sale display.

CLEAR ZEROS on
Suppresses leading zeros in current sale display.

4.19 CONSOLE

This option setting has no effect on the MICON 500C. When the "RX MICON" option is used, this option will show which communications protocol is used on the serial communications lines from the MICON 500C to the dispenser.

Compatible hardware interface boards, available as optional features of the MICON 500C, must be installed. Communication protocols are:

CONSOLE kraus (default)
MCIU's (MICON communication interface units) manufactured by *Kraus*.

CONSOLE gilbarco
Consoles manufactured by *Gilbarco*.

CONSOLE tokheim
Consoles manufactured by *Tokheim*.

CONSOLE S & B
Consoles manufactured by *Scheidt & Bachmann*.

CONSOLE WAYNE
Consoles manufactured by Wayne

4.19.1 BAUD

The BAUD setting is reserved for future expansion.

4.20 PUMP ID.

This option sets the pump address used during serial data channel communications.

Do not set pump address if MICON 500C pump head is using Kraus MNET communications in conjunction with an MCIU or equivalent interface box. In this setup, pump address is set dynamically by the interface box. Values are:

PUMP ID. not set (default)
PUMP ID. 01
PUMP ID. 02
PUMP ID. 03

PUMP ID. 24

4.21 GRADE

Functions for this option vary, depending on which type of console interface (i.e., Kraus, Gilbarco, Tokheim, Tatsuno) is used. Values are:

GRADE 1 (default)
GRADE 2
GRADE 3

For the **Kraus (MNET)** interface, setting GRADE to 2 disables the MICON 500C's "override console sales data collection" feature, when the MICON 500C is authorized manually. Thus, if the console stops working, the operator can flip the switch inside the pumphead for manual operation in full service mode.

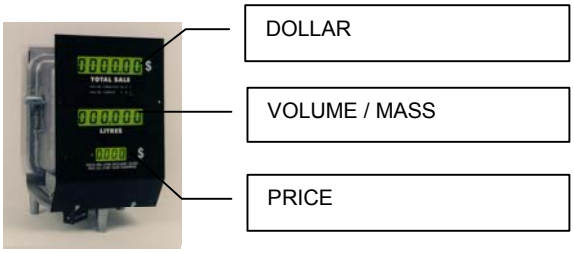
For the **Tokheim** interface, setting GRADE to 1 will transmit volume information to the console exactly as it is displayed. Setting GRADE to 2 will transmit volume information in the format '999.999', regardless of the displayed format.

Gilbarco pumps have the capability of setting grades (e.g., regular or unleaded fuel) at the pump.

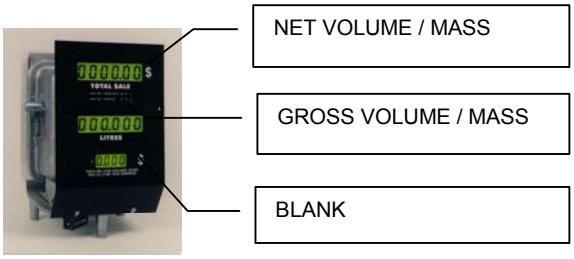
4.22 DISPLAY

This option sets the way the current sale amount display on the MICON 500C is to be interpreted.

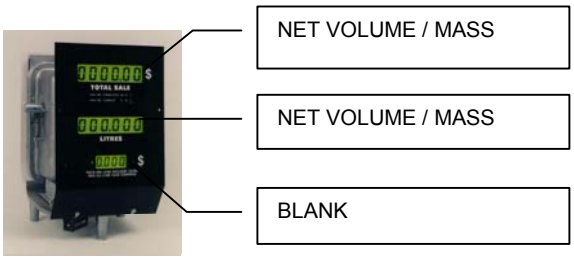
DISPLAY normal (default)
Use this setting for computing registers.



DISPLAY bulk
Display shows net volume/mass – gross volume/mass – blank.
Use this setting for non-computing dispenser(s). Faceplate may cover one of the volume displays.



DISPLAY non-comp
Display shows net volume/mass – net volume/mass – blank. Use this setting for non-computing dispenser(s). Faceplate may cover one of the volume displays.



4.23 MASS CONV. (mass conversion)

This option allows *Weights & Measures* inspectors to use a switch to show the mass of the fuel sold on Micon pumpheads calibrated to dispense in Gasoline Gallon Equivalents (gge) or Gasoline Litre Equivalents (gle). Settings are:

MASS CONV. off (default)
MASS CONV. gge
MASS CONV. gle

TABLE 4 – MASS CONVERSIONS

ABBREVIATION	DEFINITION	EQUIVALENT MASS
1 gge	one gasoline gallon equivalent	5.660 lb
1 gle	one gasoline litre equivalent	0.678 kg

4.24 HOSE SIZE

This option is only applicable for dispensers employing a depressurized hose. This option is used to set the size of the hose in displayed units. The mass of fuel required to fill the hose is calculated and subtracted from the beginning of every sale to compensate for the filling of the hose.

Setting this value to zero (default) disables the hose depressurization options.

On software versions before Version 3.18, when this value was set to non-zero, a hose evacuation solenoid was activated at the end of every sale.

HOSE SIZE 0.00 (default)

HOSE SIZE 0.99

Press ▷ to position cursor.

Press ◁ (ON) to change value.

4.25 TURBINE

This option enables or disables the turbine meter option. Settings are:

TURBINE disab (default)
TURBINE enab

The *enabled* setting is intended for MICON 500C pumpheads which register flow from CNG dispensers using volumetric turbine-type meters. For the MICON 500C to be used with a volumetric turbine-type meter, the meter type option of 'S' must be specified.

When enabling the turbine meter option:

- Check turbine meter calibration specifications for pulses per ACF (actual cubic feet) of CNG measured. This is a unique value for each turbine meter, typically 20,000 pulses per ACF. Enter this number in the (INFO-PAC) T.CALIB setting (next setting).
- It is necessary to have a redundant pressure transducer enabled for accurate flow calculations. In m500c mode:

  1) Select **COMP. SYSTEM pfs** on the INFO-PAC, described in section 5.9, page 31. (m500c modes are not sealable settings.)
  2) Select **PTX2 enab** on the INFO-PAC, described in section 5.14, page 32.

1. **THE SELECTION OF THE TURBINE METER OPTION IS ONLY POSSIBLE WHEN THE MICON 500C IS IN *PROGRAM MODE*, AND DOES NOT TAKE EFFECT UNTIL THE *TRANSMIT* OPTION IS EXECUTED SUCCESSFULLY, AS DESCRIBED IN SECTION 4.35, PAGE 20. IT IS A SEALED CONFIGURATION PARAMETER, AS ARE ALL M500 MODE SETTINGS.**
2. **THE TURBINE METER CONFIGURATION IS NOT INTENDED FOR CUSTODY TRANSFER APPLICATIONS, AND NO IMPLICATIONS OR GUARANTEES ARE MADE HEREIN REGARDING ACCEPTANCE OF TURBINE METER APPLICATIONS USING THE MICON 500C BY LOCAL AUTHORITIES (*MEASUREMENT CANADA*, AN AGENCY OF INDUSTRY CANADA).**
3. **THE TURBINE METER REQUIRES USE OF THE PFS 3000 OVERFILL PROTECTION SYSTEM AND THE PRESSURE TRANSDUCER AND TEMPERATURE PROBE ON THE MICON 500C. THE CONFIGURATION OF THE PRESSURE TRANSDUCER AND TEMPERATURE PROBE ARE SET BY THE PFS 3000 SETTINGS AND/OR HARDWARE.**

4.26 T. CALIB (turbine calibration)

This option permits setting of turbine meter calibration values. It has no effect if the turbine meter option, described above, is disabled.

Values entered at this setting refer to calibrated turbine pulses per ACF (actual cubic feet) of CNG measured. This is a unique value for each turbine meter, typically 20,000 pulses per ACF. Check manufacturer's specifications for the correct value. Settings range from:

T. CALIB 0000

T. CALIB 10000 (default)

T. CALIB 59999

Press ▷ to position cursor.

Press ON to change value.

4.27 T. UNITS (turbine units)

This option permits setting of final calculated units for turbine meters. In the MICON 500 system, all initial calculations are performed using lbs., then converted to other units, if required. This option has no effect if the turbine meter option, described on page 15, is disabled. Settings are:

T. UNITS lb. (default)
T. UNITS kg
T. UNITS gge
T. UNITS gle

TABLE 5 – MASS CONVERSIONS (turbine units)

ABBREVIATION	DEFINITION	EQUIVALENT MASS
1 kg	one kilogram	2.205 lbs.
1 gge	one gasoline gallon equivalent	5.660 lbs.
1 gle	one gasoline litre equivalent	0.678 kg

4.28 MIN. FLOW (minimum flow)

This is a flow rate (units/minute) used to determine whether or not a sale can continue. Setting this value to 0 will produce a situation where the sale will never terminate. This is used in systems where the M500 is only used for a register and the fill is controlled with another system. If flow is below the set value for 6 seconds or more, the sale is terminated, and all valves are closed.

If IN COUNT option (see section 4.5, page 7) is less than 1000 (the default value), this flow rate must be multiplied by 10, 100 and 1000 for IN COUNT's of 100, 10 and 1 respectively.** Values range from:

MIN FLOW 00.0 (units/minute)

MIN FLOW 00.4 (default)

MIN FLOW 99.9

Press ▷ to position cursor.

Press ON to change value.

***EXAMPLE:* Assuming the sale should be considered complete when gas is flowing at **0.5 lbs./min.** for 6 seconds or more, and the IN COUNT (INFO-PAC) option is less than 1000:

TABLE 6 – SAMPLE MINIMUM FLOW CONVERSION FOR IN COUNT SETTINGS < 1000

IN COUNT	MULTIPLICATION FACTOR		MIN. FLOW SETTING
100	Multiply lbs./min. by 10	0.5 x 10 =	5
10	Multiply lbs./min. by 100	0.5 X 100 =	50
1	Multiply lbs./min. by 1000	0.5 X 1000 =	500

4.29 MAX FLOW (maximum flow)

This flow rate determines an excess flow threshold above which the Micon 500C will end the filling transaction. If a flow rate above this value is calculated, all valves are closed. This is used as a safety shutoff. If IN COUNT option (see section 4.5, page 7) is less than 1000 (the default value), this flow rate must be multiplied by 10, 100 and 1000 for IN COUNT's of 100, 10 and 1 respectively.*** Values range from:

MAX FLOW 000 (units/minute)

MAX FLOW 030 (default)

MAX FLOW 180

Press ▷ to position cursor.

Press ◁ ON to change value.

***_EXAMPLE:_** Assuming the safety shutoff feature should engage when gas is flowing at **0.4 lbs./min.**, and the IN COUNT (INFO-PAC) option is less than 1000:

TABLE 7 – SAMPLE MAX. FLOW CONVERSION FOR IN COUNT SETTINGS < 1000

IN COUNT	MULTIPLICATION FACTOR		MAX. FLOW SETTING
100	Multiply lbs./min. by 10	0.4 x 10 =	4
10	Multiply lbs./min. by 100	0.4 X 100 =	40
1	Multiply lbs./min. by 1000	0.4 X 1000 =	400

4.29.1 MEXICO CITY 66%

When this option is set "on", a contact closure on P5-8 to ground will cause the price and dollar displays to change to 66% of the previous values for several seconds. The displays will then change back to the previous values. Not used in most applications. This option should remain set at:

MEXICO CITY 66% OFF (default)
MEXICO CITY 66% ON

4.30 SLOW FLOW

The SLOW FLOW setting is reserved for future expansion.

SLOW FLOW 0.600 (default)

4.31 START KEY

The START KEY is reserved for future expansion. This option should remain set at:

START KEY disab (default)

4.32 STOP KEY

The STOP KEY is reserved for future expansion. This option should remain set at:

STOP KEY disab (default)

4.33 CUST. PRESET (custom preset)

Reserved for custom setting. This option should remain set at:

CUST. PRESET off (default)

4.34 P. CODE (personal code)

This option is available with version 3.2 INFO-PAC and 3.06 MICON 500C software. Users responsible for setting fuel prices on the MICON 500C are required to use a security code. User(s) may pick any 4 digit number as a personal identification code, to provide access to price changing.

P. CODE 0000 (default)

P. CODE 9999

4.35 **TRANSMIT** (transmit m500 settings)

BEFORE TRANSMITTING SETTINGS, READ THESE IMPORTANT WARNINGS:

WHEN PERFORMING INSTALLATION OR MAINTENANCE WORK OF ANY KIND, INCLUDING SERVICING MICON 500C ELECTRONIC PUMPHEAD MAIN BOARDS OR USING INFO-PAC TO PROGRAM PUMPHEADS, IT IS THE RESPONSIBILITY OF THE SERVICE PERSON PERFORMING THE WORK TO ENSURE:

1. **ALL POWER TO MICON PUMPHEAD(S) IS TURNED OFF (EXCEPT BATTERY WHEN PROGRAMMING FROM INFO-PAC).**
2. **ALL SUPPLY OF GAS TO DISPENSER(S) BEING SERVICED IS SHUT OFF.**

WHENEVER PROGRAMMING WITH THE INFO-PAC, ALL PARAMETERS ARE REWRITTEN IN THE MICON 500C.

BEFORE TRANSMITTING SETTINGS FROM THE INFO-PAC TO THE MICON 500C ELECTRONIC PUMPHEAD, SCROLL CAREFULLY THROUGH ALL OPTIONS DISPLAYED ON THE INFO-PAC, AND ENSURE THAT EACH AND EVERY ONE IS STILL ON THE DESIRED SETTING, EVEN IF YOU HAVE CHANGED ONLY A SINGLE SETTING.

The TRANSMIT menu option is used to transmit the INFO-PAC "m500" options (described in sections 4.0 to 4.34) to the MICON 500C unit.

To transmit selected m500 settings to the MICON 500C:

1. Switch OFF the head power to the MICON 500C by turning the main circuit breaker OFF. **Caution: Ensure breaker box does not feed power to equipment which should remain ON.**

   The MICON 500C display should be flashing. If display is not flashing, unit is in *battery save* mode. To correct this, turn handle ON and OFF. Display will start flashing.

   Remove the cover of the MICON 500C. This requires breaking of a *Measurement Canada* seal on the cover, and removal of bolts.

   Place switch inside the MICON 500C in the UP position to enable programming mode. The display should register "Prog" (programming mode).

> If it is not convenient to remove MICON 500C cover, there is an alternative method of permitting **1-time programming only**:
>
> 1. Go to breaker box and turn power OFF. **Caution: Ensure breaker box does not feed power to equipment which should remain ON.**
>
> 2. Remove cotter pin from handle shaft on the MICON 500C, and turn handle shaft DOWN to battery OFF position. This may require breaking of a *Measurement Canada* seal through the handle shaft, behind the cotter pin (for MICON 500C heads using software version 3.0 and later). Leave battery OFF for 10 seconds for a completely "cold start".

2. Scroll to m500: INFO-PAC TRANSMIT option. Set **TRANSMIT on**.

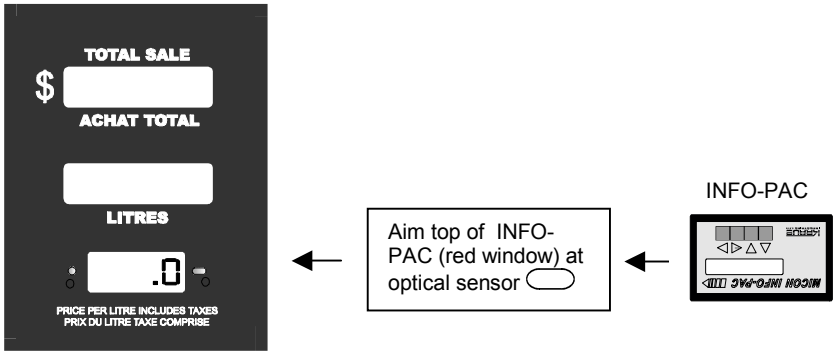
BEFORE TRANSMITTING M500 SETTINGS FROM THE INFO-PAC TO THE MICON 500C ELECTRONIC PUMP HEAD, SCROLL CAREFULLY THROUGH ALL OPTIONS DISPLAYED ON THE INFO-PAC, AND ENSURE THAT EACH AND EVERY ONE IS STILL ON THE DESIRED SETTING, EVEN IF YOU HAVE CHANGED ONLY A SINGLE SETTING.

WHENEVER PROGRAMMING WITH THE INFO-PAC, ALL PARAMETERS ARE REWRITTEN IN THE MICON 500C.

3. Take the INFO-PAC and go to the front of the MICON 500C electronic pumphead display, not the rear. Locate optical sensor (oval hole ⬭) to the right of price display on MICON 500C.

4. Aim INFO-PAC transmitter/receiver (located in center behind red tinted filter on edge of INFO-PAC) at MICON 500C optical sensor as shown below.

FIGURE 1 – TRANSMITTING m500 INFO-PAC SETTINGS TO MICON 500C



MICON 500C Electronic Pumphead display

Red LED to left of MICON 500C price display flashes as MICON receives data from INFO-PAC.

5. When MICON 500C has correctly received setup information,

will show on MICON 500C price display.

6. Exit programming mode by flipping switch inside MICON 500C to DOWN (Normal position if board is installed in MICON 500C tub).

This step is unnecessary if program mode was entered using alternative method in Step 1 (preceding page).

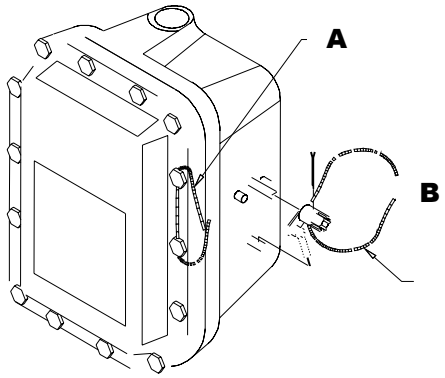
7. Switch the head power back ON and run the MICON 500C using the new settings.

8. Replace the cover of the explosion-proof MICON 500C housing, if removed, and:

   A) Install a suitable legal seal through the two adjacent drilled cover bolts to ensure the cover cannot be removed without breaking the seal.

   B) Install a suitable legal handle seal through the handle shaft, behind the cotter pin, so that the handle coupler cannot be removed from the handle shaft.

FIGURE 2 – AFFIXING LEGAL SEALS TO PUMPHEADS



It is a requirement of *Measurement Canada*, an agency of Industry Canada, that legal seals be affixed to pumpheads as shown in Fig. 2.

4.36 RX MICON (receive m500 settings)

This menu option is used for INFO-PAC to receive MICON 500C settings from units which have already been programmed.

To receive information from the MICON 500C:

1. Go to breaker box and turn power OFF. **Caution: Ensure breaker box does not feed power to equipment which should remain ON.**

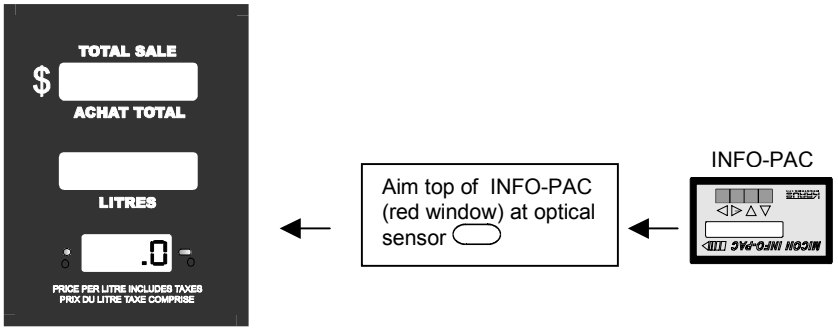
The MICON 500C display should be flashing. If display is not flashing, unit is in *battery save* mode. To correct this, turn handle ON and OFF. Display will start flashing.

Scroll to INFO-PAC RX MICON option. Set **RX MICON on**.

Take the INFO-PAC and go to the front of the MICON 500C electronic pumphead display, not the rear. Locate optical sensor (oval hole ⬭) at right of price display on MICON 500C.

Aim INFO-PAC transmitter (located behind red tinted filter at centre edge of INFO-PAC) at MICON 500C optical sensor.

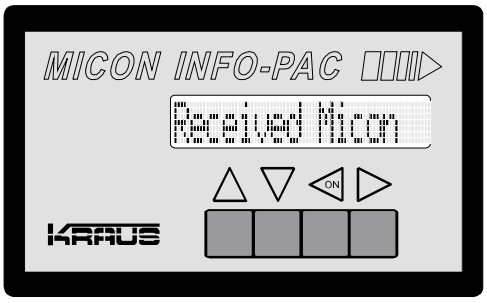
FIGURE 3 – RECEIVING MICON 500C SETTINGS WITH INFO-PAC



MICON 500C
Electronic Pumphead
display

Red LED to left of MICON 500C price display flashes as INFO-PAC receives data from MICON 500C.

When INFO-PAC has received a copy of the MICON 500C setup information correctly, INFO-PAC display will show "Received Micon".



5.0 SETUP MODE m500c - CONFIGURATION MODES FOR THE MICON 500C ELECTRONIC PUMPHEAD

5.1 SETUP MODE

Use the ◁ ON or ▷ key to switch from :

to:

TABLE 8 – DEFAULT SETTINGS (m500c)

OPTION	DEFAULT SETTINGS
1. SETUP MODE 500c	n/a
2. FILL OPTION	1
3. MAX LINE	3
4. IPTP FLOW 1	05.0
5. IPTP FLOW 2	05.0
6. EXCESS FILL	0000
7. EXCESS RESET	Auto
8. ALARM SET	All
9. COMP. SYSTEM	pfs
10. FILL PRESS	p24
11. PRESS UNIT	Psig
12. PRESS.SC.	5000p
13. HEAT SCALE F.	10
14. PTX2	disab
15. TRX TEMP.	disab
16. RESTART TIME	02s
17. MFS TIMER	02s
18. TX M500C	off
19. RX M500C	off

5.2 FILL OPTION

If, at any point during the fill, a flow rate below a presettable “minimum flow” rate (MIN FLOW m500 setting) is sustained for 4 seconds, the fill shall be deemed complete. All lines will be turned OFF and the *sale complete* tone will be given.

Option 1 (default):

This option is for setups using 3 solenoids to control flow from low/mid/high banks. The solenoids are connected as follows:

TABLE 9 - WIRE CONNECTIONS FILL OPTION 1

EUROPEAN	**NORTH AMERICAN**	
230 VAC LINES	**120 VAC LINES**	
METRIC TYPE	18 AWG	SOLENOID
wire 3	**wire 8 (orange)**	connects to main A
wire 4	**wire 7 (black)**	connects to sequencing power
wire 5	**wire 21 (white/green)**	connects to mid bank
wire 6	**wire 22 (white/yellow)**	connects to high bank
wire 7	**wire 23 (white/orange)**	connects to main B

If all three lines are not being used, remove solenoid connections, starting from the highest bank.

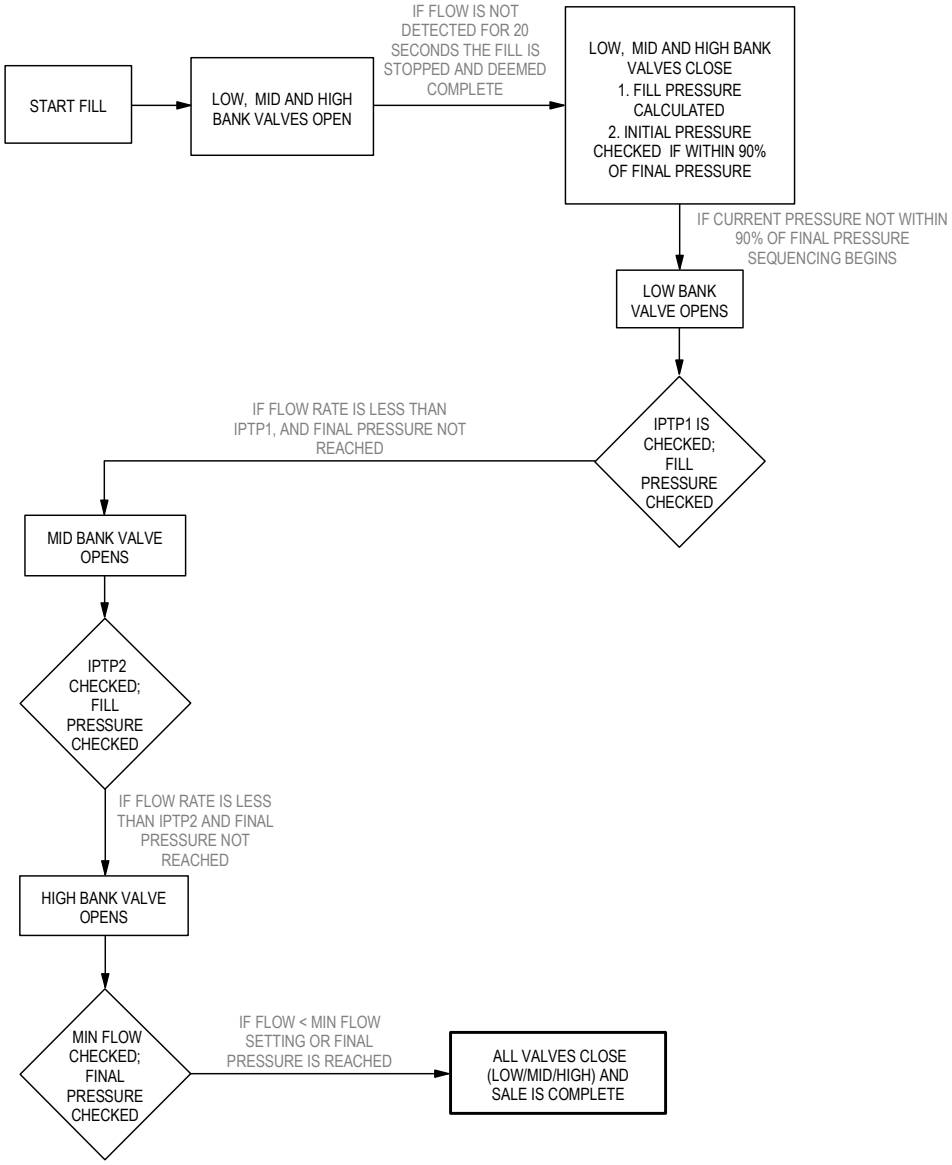
At the start of the fill, the low bank, mid bank and the high bank valves are opened for 4 seconds. Then all valves close and end of fill pressure is calculated. This calculation is based on the pressure reading of the pressure transducer and the temperature probe, enabled by the COMP. SYSTEM pfs setting. As soon as any flow is detected, the high bank valve is closed. The flow is allowed to stabilize for ¼ second and then the flow is measured over the next ¼ second. If this flow is below IPTP1 (m500 setting), then the mid bank valve is opened. If the mid bank valve has been opened after the IPTP1 check, the flow is again allowed to stabilize for ¼ second and then flow is measured over the next ¼ second. If the flow is less than the IPTP2 (m500 setting), the high pressure valve is also opened and the sale is allowed to complete.

The MICON 500C calculates the IPTP as follows:

The flow is allowed to stabilize for two seconds (1 ½ seconds longer than the initial MIN FLOW check). The flow is then calculated over the next 2 seconds. This flow rate is then compared to the IPTP FACTOR. When the flow rate decreases to the value of the IPTP, the next higher bank valve is opened. IPTP FACTOR 1 is used for opening the mid bank valve and IPTP FACTOR 2 is used for opening the high bank valve.

1. If during the initial pressure check the pressure is within 90% of calculated final fill pressure the fill is deemed complete.
2. If the fill pressure reaches the calculated final fill pressure, the fill is deemed complete and all valves close.

FIGURE 4 – FILL OPTION 1



Option 2:

This option is for settings using a three position actuator valve and one main solenoid valve. Connect as shown:

TABLE 10 - WIRE CONNECTIONS FILL OPTION 2

EUROPEAN	**NORTH AMERICAN**	
230 VAC LINES	**120 VAC LINES**	
METRIC TYPE	18 AWG	SOLENOID
wire 3	**wire 8 (orange)**	connects to main solenoid valve
wire 4	**wire 7 (black)**	connects to sequencing power
wire 5	**wire 21 (white/green)**	connects to actuator valve mid bank line position
wire 6	**wire 22 (white/yellow)**	connects to actuator valve high bank line position
wire 7	**wire 23 (white/orange)**	connects to motor actuator valve HOME position

At the start of the sale, the main valve is opened and the motor actuator is advanced to the high bank position. When flow starts, the motor actuator is returned to the home position. When the motor actuator reaches the home position, the flow will be allowed to stabilize for 2 seconds. During the next 2 seconds the initial flow rate is calculated. This flow rate is divided by a settable factor (IPTP FACTOR 1) and is used as an "increase pressure trip point" (IPTP). Flow will continue until the IPTP or the MIN. FLOW is reached; then the motor actuator will advance to activate the mid bank line. Once again the flow rate will be allowed to stabilize for 2 seconds and a new flow rate will be calculated. This rate will be divided by a second pre-settable factor (IPTP FACTOR 2) to give the new IPTP. Flow will continue until this IPTP or the MIN. FLOW has been reached, then the motor actuator will be advanced to the high bank line position.

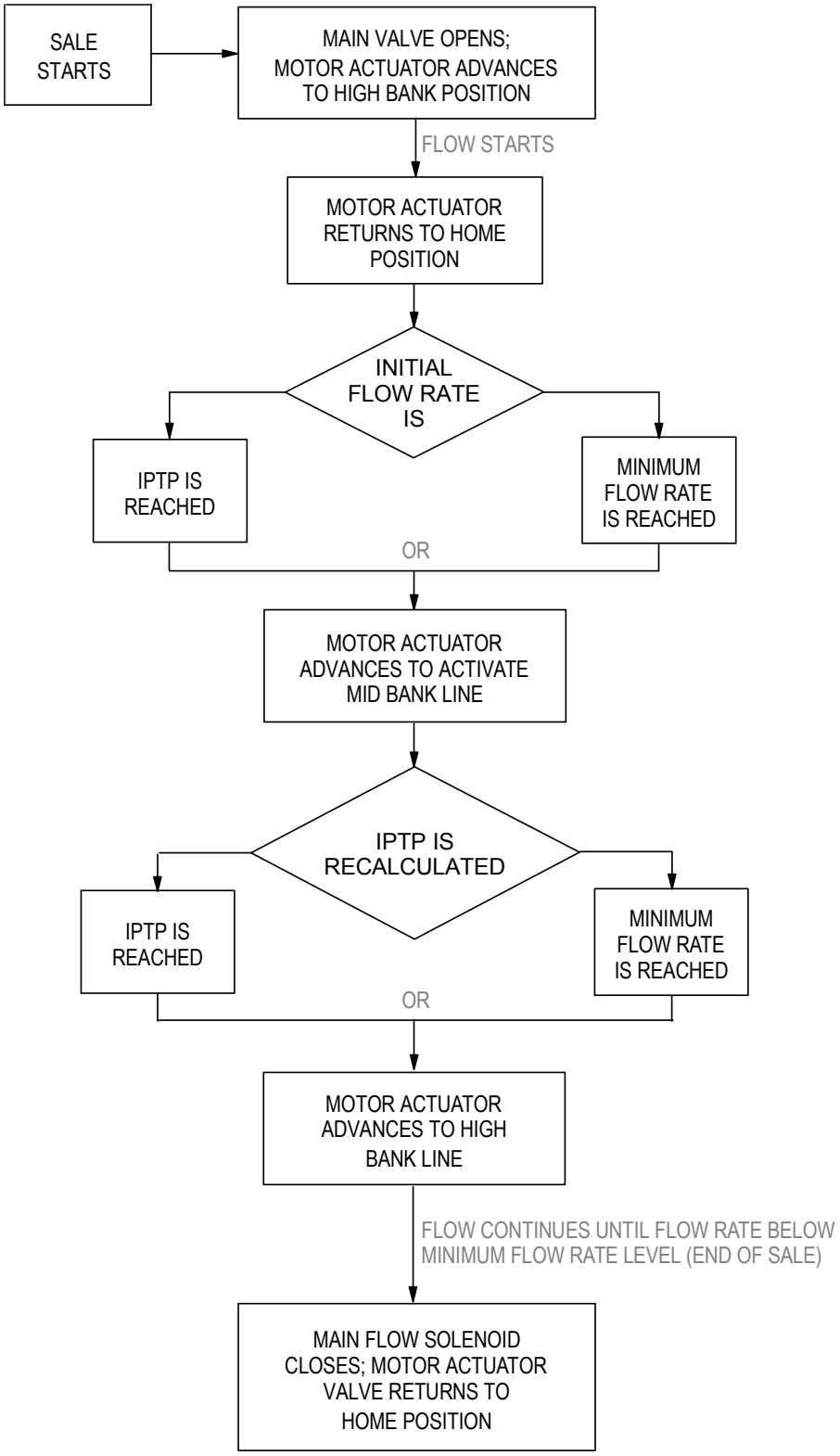
Flow will continue until the end of sale (flow rate below the MIN. FLOW level), when the main flow solenoid will be closed and the motor actuator valve returns to the home position.

ALARM OUTPUT IS DISABLED WITH THIS FILL OPTION.

Motor Actuator Options:

If, at any time, the position of the motor actuator valve is unknown (i.e., at first power up), the valve will reset to the HOME position by automatically activating the HOME output for 10 seconds.

FIGURE 5 – FILL OPTION 2



5.3 MAX LINE

This option is used to set the number of pressurized lines used in the MICON 500C sequencing. Up to three lines can be accommodated. Settings are:

MAX LINE 1
MAX LINE 2
MAX LINE 3 (default)

5.4 IPTP FLOW 1 (increased pressure trip point – flow 1)

IPTP FLOW 1 is the sequencing point at which fuel flow has decreased significantly enough while using only the low bank to turn on the mid bank. It is expressed as units/minute. Values are:

IPTP FLOW 1 00.0

IPTP FLOW 1 05.0 (default)

IPTP FLOW 1 99.9

Press ▷ to position cursor.

Press ON to change value.

Calculate default setting for your system as described below.

Calculate setting as described below.

To determine the value at which to set the INO-PAC:

Calculated value may require adjustment after testing

1. Consult the mass flow meter manufacturer's specifications. Find the maximum flow rate, expressed as units/minute (e.g. 8 units/minute).

2. Calculate 20 percent of this number.
   (8 units/minute x 0.20 = 1.6 units/minute)

2. Enter the calculated number at 'IPTP FLOW 1' setting. (01.6)

5.5 IPTP FLOW 2 (increased pressure trip point – flow 2)

IPTP FLOW 2 is the sequencing point at which fuel flow has decreased significantly enough while using only the mid bank to turn on the high bank. It is expressed as units/minute. Values are:

IPTP FLOW 2 00.0

IPTP FLOW 2 05.0 (default)

IPTP FLOW 2 99.9

Press ▷ to position cursor.

Press ◁ (ON) to change value.

Calculate setting as described below. The calculated setting will be equal to one half of the IPTP FLOW 1 setting.

Calculated value may require adjustment after testing setup.

1. Consult the mass flow meter manufacturer's specifications. Find the maximum flow rate, expressed as units/minute (e.g. 8 units/minute).

2. Calculate 10 percent of this number.
   (8 units/minute x 0.10 = 0.8 units/minute)

3. Enter the calculated number at 'IPTP FLOW 1' setting. (00.8)

5.6 EXCESS FILL

This option sets Excess Fill quantity. When enabled, this feature allows a preset mass value to be used to terminate the fill. The units are the same as the units used for calibration of the MICON 500C. A setting of "0000" is considered to be a disable for this feature (OFF).

EXCESS FILL 0000 (default)

EXCESS FILL 1000

Press ▷ to position cursor.

Press ◁ (ON) to change value.

Enable this setting if you have enabled TURBINE meter option on m500 settings)

5.7 EXCESS RESET

This option is Excess Flow Reset. Some jurisdictions require that the Micon 500C shut down completely on an excess flow condition, and only be restarted or reset with a special manual action. When set to “auto”, the fill is terminated on an excess flow condition. The error can then be cleared by simply reactivating the handle switch. When set to “manual”, only an input from the Manual Reset Switch can restart the Micon. Settings displayed:

EXCESS RESET auto (default)
EXCESS RESET man

5.8 ALARM SET

This setting determines which alarms will trigger an annunciation on the ALARM output. When set to “all”, every alarm or failure causing system shutdown, regardless of the type of reset permitted, will be registered on this output. When set to “manual” (man), only alarms that require a manual reset through the Manual Reset Switch input will be registered on this output.

ALARM SET all (default)
ALARM SET man

5.9 COMPENSATION SYSTEM

This determines which pressure-temperature compensation system is active. If “mfs” (MICON fill stop) is selected, the system functions with the temperature compensation pressure switches. If “pfs” (pressure fill stop) is selected, the system functions by using pressure transducers and temperature probes.

COMP. SYSTEM pfs (default)
COMP. SYSTEM mfs

5.9.1 HARD LIMIT

When set to “on” the dispenser will limit maximum target fill pressure to the system pressure. For example, a dispenser with the Info-Pac option “PRESS OP” set to “p30” and “HARD LIMIT” set to “on” would never fill past 3000 psi. The hard limit is the last operation performed when setting target fill pressure. The effects of ambient temperature and the “HEAT SCALE F” option are accounted for first. In a case where the target fill pressure is initially determined to be less than the system pressure then this option has no effect.

HARD LIMIT off (default)
HARD LIMIT on

5.10 FILL PRESS (fill pressure)

This option permits setting of Operating Compensated Fill Pressure, and works only in conjunction with COMP. SYSTEM pfs (described above). This is the final fill pressure compensated to 70°F for reference in the basic gas-law temperature compensation equations; p24 is 2400 psig @ 70ºF, p30 is 3000 psig @ 70°F, p36 is 3600 psig @ 70°F. If the dispenser has two handles the following option can be used: p30/p36 is 3000 psig @ 70º on the first handle and 3600 psig @ 70º on the second handle. Consult dispenser manufacturer's specifications for this value.

FILL PRESS p24 (default)
FILL PRESS p30
FILL PRESS p36
FILL PRESS p30/p36

5.11 PRESS UNIT (pressure units)

This option permits setting of Pressure Transducer Scaling Units (PTSU), and works only in conjunction with COMP. SYSTEM pfs (described above). This selects the units used for all pressure interfaces in the system.

PRESS UNIT psig (default)
PRESS UNIT barg

1 barg = 14.73 psig

5.12 PRESS. SC. (pressure scaling)

This is the Pressure Scaling option. It works in conjunction with Pressure Transducer Scaling Units (PTSU) and COMP. SYSTEM pfs (described on page 31). It is used to properly scale the pressure transducer 4-20 mA output.

If PTSU is set to *psig*, this setting ranges from 0 to 6000 psig in 10 psig increments:

PRESS. SC. 0000p

PRESS. SC. 5000p (default)

PRESS. SC. 6000p

Press ▷ to position cursor.
Press ◁ (ON) to change value.

6000 psig is the maximum setting. Second and third digits must be reset to zero before first digit will increase from 5 to 6.

If PTSU is set to *barg*, this setting ranges from 0 to 400 barg with 1 barg increments:

PRESS. SC. 0b

PRESS. SC. 200b (default)

PRESS. SC. 400b

Press ▷ to position cursor.
Press ◁ (ON) to change value.

400 barg is the maximum setting. Second and third digits must be reset to zero before first digit will increase from 3 to 4.

5.13 HEAT SCALE

This option sets the Compression Heating Scaling Factor. It works only in conjunction with COMP. SYSTEM pfs (described on page 31). This (no unit) scaling factor is used to multiply the difference between the initial pressure and the target fill pressure. This calculation creates a pressure value which is added to the final fill pressure to allow for falsely high vehicle cylinder pressure readings due to compression heating within the vehicle cylinders. The setting selected is dependent upon the vehicle type being serviced. Lower settings (e.g., 1-3) are appropriate for light duty vehicles such as small cars; settings of 9-10 are used for heavy duty vehicles such as transit buses. **Note**: turning "hard limit" on disables this.

HEAT SCALE F.00

HEAT SCALE F 10 (default)

Press ◁ (ON) or ▷ to change value.

5.14 PTX2 (pressure transducer status – redundant)

This option sets the Redundant Pressure Transducer Status. It works only in conjunction with COMP. SYSTEM pfs (described on page 31). The purpose of the second pressure transducer is to back up the primary pressure transducer. In some jurisdictions such a degree of backup is not required, so the system is able to enable or disable the use of the redundant pressure transducer. When disabled, it is completely ignored. When enabled, the basic compensation formula averages the readings from the two pressure transducers, and monitors the difference between the two for a maximum window of error.

PTX2 disab (default)
PTX2 enab

5.15 TRX TEMP. (transmit temperature)

This option permits a temperature transducer enable. It works only in conjunction with COMP. SYSTEM pfs (described on page 31). When this is disabled, only the ambient temperature is used in the compression formula. When TRX TEMP is enabled, the ambient temperature is averaged with the temperature from this transducer for use in the basic compensation formula.

TRX TEMP. disab (default)
TRX TEMP. enab

5.16 RESTART TIME

This is the time delay permitted between an end-of-fill (as determined by the basic pressure-temperature compensation equation or the hard limit) and the true fill termination. During this delay, a pressure falling below the end-of-fill value can restart and continue the fill. This cannot be activated when the customer turns OFF the handle switch or when the fill is terminated for emergency or alarm reasons.

RESTART TIME 02s (default)

RESTART TIME 26s

Press ▷ or ON to increase or decrease value.

5.17 MFS / BLANK TIMER (Micon fill stop timer)

This option sets the time delay initiated each time any flow control solenoid valve is activated (either at the very start of the fill, during bank switchover, or after a restart from the restart timeout).

If COMP SYSTEM is set to “mfs” (MICON fill stop--default), readings from temperature compensation pressure switches are blanked during the period set (2 seconds to 26 seconds, in 2 second increments). Settings are:

MFS TIMER 02s (default)

MFS TIMER 26s

Press ▷ or ON to increase or decrease value.

If COMP. SYSTEM is set to “pfs” (pressure fill stop), this option will display as BLANK TIMER. During the period set (2 seconds to 26 seconds, in 2 second increments), pressure readings from the pressure transducers, as well as the condition of the hard limiting pressure switch, are blanked. Settings are:

BLANK TIMER 02s (default)

BLANK TIMER 26s

Press ▷ or ON to increase or decrease value.

5.18 TRANSMIT (transmit m500c settings)

BEFORE TRANSMITTING SETTINGS, READ THESE IMPORTANT WARNINGS:

1. **WHEN PERFORMING INSTALLATION OR MAINTENANCE WORK OF ANY KIND, INCLUDING SERVICING MICON 500C ELECTRONIC PUMPHEAD MAIN BOARDS OR USING INFO-PAC TO PROGRAM PUMPHEADS, IT IS THE RESPONSIBILITY OF THE SERVICE PERSON PERFORMING THE WORK TO ENSURE:**
2. **ALL POWER TO MICON PUMPHEAD(S) IS TURNED OFF.**
3. **ALL SUPPLY OF GAS TO DISPENSER(S) BEING SERVICED IS SHUT OFF.**

WHENEVER PROGRAMMING WITH THE INFO-PAC, ALL PARAMETERS ARE REWRITTEN IN THE MICON 500C.

BEFORE TRANSMITTING SETTINGS FROM THE INFO-PAC TO THE MICON 500C ELECTRONIC PUMPHEAD, SCROLL CAREFULLY THROUGH ALL OPTIONS DISPLAYED ON THE INFO-PAC, AND ENSURE THAT EACH AND EVERY ONE IS STILL ON THE DESIRED SETTING, EVEN IF YOU HAVE CHANGED ONLY A SINGLE SETTING.

This menu option is used to transmit the INFO-PAC "m500c" options (described in sections 5.0 to 5.17) to the MICON 500C unit.

To transmit selected m500c settings to the MICON 500C:

1. Go to breaker box and turn power OFF. Caution: **Ensure breaker box does not feed power to equipment which should remain ON.**

   The MICON 500C display should be flashing. If display is not flashing, unit is in *battery save* mode. To correct this, turn handle ON and OFF. Display will start flashing.

2. Scroll to m500c: INFO-PAC TRANSMIT option. Set **TRANSMIT on**.

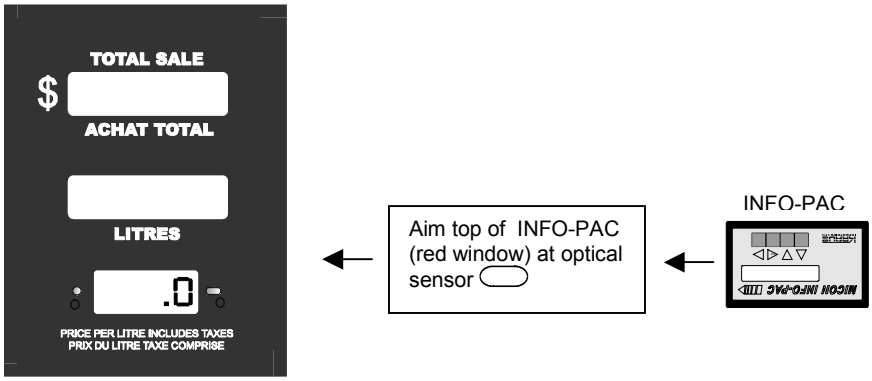
Attention

BEFORE TRANSMITTING M500C SETTINGS FROM THE INFO-PAC TO THE MICON 500C ELECTRONIC PUMP HEAD, SCROLL CAREFULLY THROUGH ALL OPTIONS DISPLAYED ON THE INFO-PAC, AND ENSURE THAT EACH AND EVERY ONE IS STILL ON THE DESIRED SETTING, EVEN IF YOU HAVE CHANGED ONLY A SINGLE SETTING.

3. Take INFO-PAC and go to the front of the MICON 500C electronic pumphead display, not the rear. Locate optical sensor (oval hole ⬭) at right of price display on MICON 500C.

4. Aim INFO-PAC transmitter/receiver (located in center behind red tinted filter on edge of INFO-PAC) at MICON 500C optical sensor.

FIGURE 6 – TRANSMITTING INFO-PAC m500c SETTINGS TO MICON 500C



MICON 500C Electronic Pumphead display

Red LED to left of MICON 500C price display flashes as MICON receives data from INFO-PAC.

5. When MICON 500C has correctly received setup information,

will show on MICON 500C price display.

6. Switch the head power back ON and run the MICON 500C using the new settings.

5.19 RX MICON (receive m500c settings)

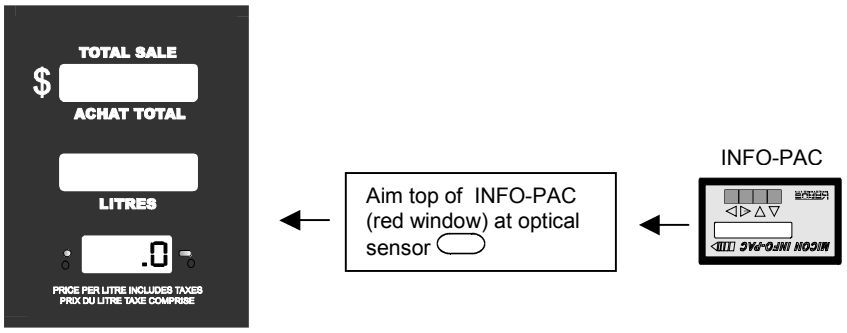
This menu option is used for INFO-PAC to receive MICON 500C settings from units which have already been programmed.

To receive information from the MICON 500C:

1. Go to breaker box and turn power OFF. **Caution: Ensure breaker box does not feed power to equipment which should remain ON.**

   The MICON 500C display should be flashing. If display is not flashing, unit is in *battery save* mode. To correct this, turn handle ON and OFF. Display will start flashing.
2. Scroll to INFO-PAC RX MICON option. Set **RX MICON on**.
3. Take INFO-PAC and go to the front of the MICON 500C electronic pumphead display, not the rear. Locate optical sensor (oval hole ⬭) at right of price display on MICON 500C.
4. Aim INFO-PAC transmitter (located behind red tinted filter at centre edge of INFO-PAC) at MICON 500C optical sensor.

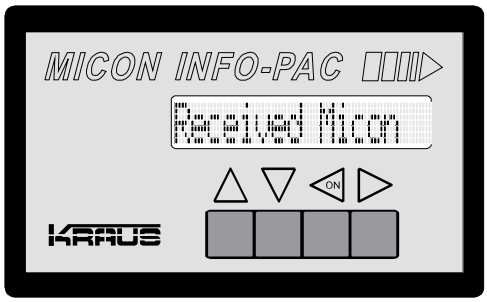
FIGURE 7 – RECEIVING MICON 500C SETTINGS WITH INFO-PAC



MICON 500C Electronic Pumphead display

Red LED to left of MICON 500C price display flashes as INFO-PAC receives data from MICON 500C.

5. When INFO-PAC has received a copy of the MICON 500C setup information correctly, INFO-PAC display will show “Received Micon”.



6.0 TROUBLESHOOTING

1. Problem: ***We cannot set price.***

Action:

This does not directly involve the INFO-PAC. It occurs when using the MICON 500C hand held communicator (optional) to set price.

1) Go to breaker box and turn OFF A/C power to MICON 500C electronic pumphead being serviced.

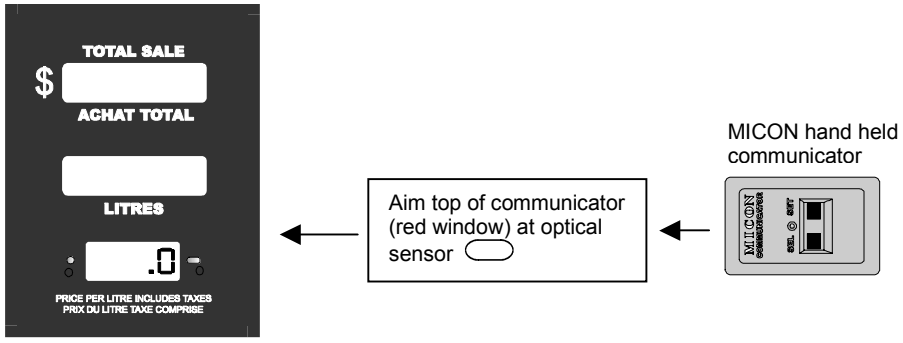
2) MICON display should be flashing.

   If display is not flashing, unit is in *battery save* mode. To correct this, turn handle ON and OFF. Display will start flashing.

3) Take the MICON hand held communicator and go to the front of the MICON 500C electronic pumphead display, not the rear.

4) Aim the communicator at the optical sensor (oval hole ⬭) at right of price display on MICON 500C.

FIGURE 8 – TRANSMITTING PRICE SETTINGS TO MICON 500C



MICON 500C Electronic Pumphead display

5) To set prices, proceed as outlined in MICON 500C Electronic Sequencing Computer Manual:

- While aiming the communicator's transmitter (located on the top of the unit) at the MICON 500C optical display sensor, press and hold the "SET" key until the display increments to the desired number.

- Use the "SEL" key to select the next digit to be changed. Press and hold the "SET" key until the display increments the desired number.

- When the correct price per unit has been entered, return the handle switch to the OFF position and restore head power.

Preceding steps are for setting prices on a single tier dispenser. For setting prices on a two tier dispenser (i.e., regular and discount prices), follow steps 1 to 5 for setting the regular price. Next, press the DISCOUNT button on side of dispenser. Set "Prc2" (discounted second price) by following steps 1 to 5 as above.

6) To read prices (and dollars and volumes totals) proceed as outlined in MICON 500C Electronic Sequencing Computer Manual:

1) Proceed as on preceding page by turning OFF A/C MICON 500C head power at breaker box. Display should be flashing. Aim the communicator's transmitter (on top of unit) at the optical sensor (oval hole ⬭) at right of price display on MICON 500C. Press and hold the SEL key until the dollar sales total is displayed.

2) Hold the "SEL" key on the communicator until the dollar sales total is displayed. Dollars sales total uses ten digits of the MICON dollars and volume displays preceded by the letters "d ı".

3) To display volume total, press and hold the "SEL" key until the display shows "V ı", followed by the ten digit volume total. Pressing the "SEL" key repeatedly or holding it down will cause the display to switch back and forth between volume and dollars totals.

Preceding steps are for reading prices on a single tier dispenser. For reading prices on a two tier dispenser (i.e., regular and discount prices), follow steps 1 and 2 above. When MICON display shows "d ı" for regular dollar totals, press the DISCOUNT button on side of dispenser. Display will show "d ı ı" for discount dollar totals.

To read volume while in DISCOUNT mode, press and hold the "SEL" key until display shows "V ı ı", followed by the ten digit volume total. Pressing the "SEL" key repeatedly or holding it down will cause the display to switch back and forth between volume and dollars totals.

2. Problem: ***We cannot transmit INFO-PAC settings to the MICON 500C electronic pump head.***

Action:

1) Go to breaker box and turn OFF A/C power to MICON 500C electronic pump head being serviced.

2) MICON display should be flashing.

   If display is not flashing, unit is in *battery save* mode. To correct this, turn handle ON and OFF. Display will start flashing.

3) Follow instructions in section 4.35 – TRANSMIT, page 20.

3. Problem: ***LED on the MICON 500C electronic pump head display flashes during power-up.***

Explanation:

If A/C power to the MICON 500C electronic pump head is OFF, the unit runs on battery power. Under these conditions, it is normal for the entire display to flash. If the LED is steadily flashing while the MICON 500C is running on battery power, this indicates the 6 volt rechargeable lead acid battery is low. The battery automatically recharges when the MICON unit is hooked up to A/C power, but eventually may become depleted. Only a qualified service person approved by the manufacturer can replace the battery.

The LED will also flash whenever the INFO-PAC or the hand held communicator is aimed at the optical sensor. This is an indication of infrared activity between the device(s) and the MICON 500C electronic pump head.

4. Problem: ***Sequencing doesn't work.***

Action:

This results from improper INFO-PAC programming in m500c mode: FILL OPTIONS.

1) Press the key marked ON to turn the INFO-PAC on. Use ▷ key to scroll to: SETUP MODE m500c . In this mode, use ▽ key to scroll down to FILL OPTION setting.

2) Observe the number displayed to the right of the FILL OPTION: 1 or 2.

FILL OPTION 1 is intended for setups using three solenoids to control flow from low/mid/high banks.

FILL OPTION 2 is intended for setups using a three position actuator valve and one main solenoid valve.

3) Check the number of solenoids being used, and ensure this number is compatible with the FILL OPTION transmitted to the MICON 500C electronic pumphead. (If you have selected FILL OPTION 1, and are not using all three lines, remove unused solenoid connections, starting with the highest bank.)

SUMMARY OF M500 AND M500C INFO-PAC PROGRAMMABLE FEATURES (for CNG)
THE INFO-PAC IS USED TO MONITOR AND PROGRAM MICON ELECTRONIC PUMPHEADS

OPTION	DESCRIPTION	DEFAULT SETTINGS		
SETUP MODE m500			**Page**	**Customer Current Setting**
CONFIG	Sets menu options to custom or default configurations	default	5	
TEST	Sets test mode ON or OFF	off	5	
PULSER	Selects pulser input source: I.S. circuit external wiring or conduit wiring	I.S.	6	
IN COUNT	Indicates number of quadrature (input pulser) transitions per unit displayed	1000	6	
MULTIPLIER	Factor used to adjust pulser edges per unit of product (works with IN COUNT)	1	7	
CURRENCY	Selects monetary unit for currency display	dollar	8	
VOL DISP	Sets number of decimal places in the volume unit display	1.000	9	
SUPPRESS	Sets number, if any, of units of flow suppression at beginning of transaction	0.030	9	
CONV.	NOT USED. Keep this setting at default: OFF	off	9	
PRC RESTORE	Automatically restores tier 1 price after tier 2 is used	on	10	
NO FLOW	Sets *no flow* (sale in progress but no product flow registering) timer ON	off	10	
VOL P. QUAD	Sets volume out pulser as single channel, with penny pulser option; or two channel quadrature output with penny pulser disabled	off	11	
VOL PPU	Sets number of output pulses per unit	10	11	
VOL PW	Sets pulse width of output signal	4.0ms	11	
PENNY PW	Sets pulse width of penny pulse signal	4.0ms	12	
W/M STANDARD	Sets allowable pulser errors to North American or European standards, also applies for temperature/pressure displays	n/a	12	
CLEAR ZEROS	Suppression of leading zeros in current sale	off	12	
CONSOLE	Selects type of communications protocol used (Kraus, Tokheim, Gilbarco)	kraus	13	
PUMP ID.	Sets pump address used for serial data communication	not set	13	
GRADE	Features vary according to interface manufacturer (Kraus, Tokheim, Gilbarco)	1	14	
DISPLAY	Sets current sale display interpretation; use default setting for CNG applications	normal	14	
MASS CONV.	Indicates mass of fuel sold in gasoline gallon or gasoline litre equivalents	off	15	
HOSE SIZE	Sets size of CNG dispensing hose	0.00	15	
TURBINE	Permits turbine meter option	disab	15	
T. CALIB	Sets turbine meter values	10000	16	
T. UNITS	Sets final calculated units for turbine meters	lb	17	
MEXICO 66%	Scale money displays by 66%	off	18	
MIN. FLOW	Flow rate used to determine whether sale is completed	00.4	17	
MAX. FLOW	Excess fill threshold above which Micon 500C will end the filling transaction	030	18	
SLOW FLOW	Reserved for future expansion	0.600	18	
START KEY	Reserved for future expansion; set to default (disab) only	disab	19	
STOP KEY	Reserved for future expansion; set to default (disab) only	disab	19	
CUST. PRESET	Reserved for future expansion; set to default (disab) only	disab	19	
P. CODE	Sets personal security code for price changing	0000	19	
TRANSMIT	Transmits pump configuration information to Micon 500 head	off	20	
RX MICON	Receives Micon 500C settings from units already programmed	off	23	

SUMMARY OF M500 AND M500C INFO-PAC PROGRAMMABLE FEATURES (for CNG)
THE INFO-PAC IS USED TO MONITOR AND PROGRAM MICON ELECTRONIC PUMPHEADS

OPTION	DESCRIPTION	DEFAULT SETTINGS		
SETUP MODE m500c			**Page**	**Customer Current Setting**
FILL OPTION	Select fill sequencing option (3 solenoids or 1 solenoid and a main actuator)	1	26	
MAX. LINE	Select 1, 2 or 3 pressurized lines	3	30	
IPTP FLOW 1	Increased pressure trip point at which low bank switches to mid bank	05.0	30	
IPTP FLOW 2	Increased pressure trip point at which mid bank switches to high bank	05.0	31	
EXCESS FILL	Permits preset mass value to terminate the fill	0000	31	
EXCESS RESET	Permits shut down on excess flow condition	auto	32	
ALARM SET	Sets which alarms will trigger an alarm output	all	32	
COMP. SYSTEM	Selects which pressure-temperature compensation system is active	pfs	32	
FILL PRESS	Sets operating compensated fill pressure (if COMP SYSTEM set to ***pfs***)	p24	33	
PRESS UNIT	Sets pressure transducer scaling units (PTSU) if COMP SYSTEM set to ***pfs***)	psig	3	
PRESS SC.	Scales pressure transducer 4-20 ma output (with PTSU; COMP SYSTEM ***pfs***)	5000p	33	
HEAT SCALE F.	Sets compression heating scaling factor (if COMP SYSTEM set to ***pfs***)	10	34	
PTX2	Sets redundant pressure transducer status (if COMP SYSTEM set to ***pfs***)	disab	34	
TRX TEMP.	Permits a transducer temperature enable (if COMP SYSTEM set to ***pfs***)	disab	35	
RESTART TIME	Sets delay timer permitted between an end-of-fill and true fill termination	02s	35	
MFS TIMER	Sets time delay initiated each time any flow control solenoid valve is activated	02s	35	
RX M500C	Receives Micon 500C settings from units already programmed	off	38	

CUSTOMER TROUBLESHOOTING FAX SHEET

Summary of M500 and M500C INFO-PAC Programmable features (for CNG)
The INFO-PAC is used to monitor and program Micon Electronic Pumpheads

OPTION	DESCRIPTION	DEFAULT SETTING	USER SETTING

Fax To: 1-204-663-7112	Customer Information:
Kraus Global Inc. **25 Paquin Road** **Winnipeg, Manitoba** **Canada, R2J 3V9** **Attention: Luke Filipecki / Andy Perreault**	

CUSTOMER TROUBLESHOOTING FAX SHEET

Summary of M500 and M500C INFO-PAC Programmable features (for CNG)
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CUSTOMER TROUBLESHOOTING FAX SHEET

Summary of M500 and M500C INFO-PAC Programmable features (for CNG)
The INFO-PAC is used to monitor and program Micon Electronic Pumpheads

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